

## **REMARKS**

Claims 1, 4, 6, 24, and 25 have been amended. Claims 1-16, 19-20, 22-30, and 38-40 remain pending.

The drawings have been objected to as failing to comply with 37 C.F.R. 1.84(p)(5) because they do not include a reference symbol T2 for Fig. 2a as mentioned in the specification. A replacement sheet for Fig. 2a is submitted herewith.

The drawings and specification are objected to as failing to comply with 37 C.F.R. 1.84(p)(5) because the reference characters that are not mentioned in the description. Replacement sheets for Figs. 3b, 5a, 7, and 11f, on which the reference symbols, noted by the Examiner, have been removed, are submitted herewith. However, it is noted that the reference symbol 524 for Fig. 5a appears in the specification on page 42, line 1 and such reference symbol remains on Fig. 5a. It is respectfully submitted that the drawings now comply with 37 C.F.R. 1.84(p)(5).

The specification is objected to for the following: on page 31, line 11 it appears that “where k” should read –where k is a constant-. In addition, on page 31, line 10 there appears to be a discrepancy between the use of the parentheses in the first and second harmonic terms in the expansion. The specification is amended herein to correct such typographical errors..

Claims 1, 4, and 6 are objected to for antecedent basis and typographical errors, which have been corrected herein.

The Examiner has also rejected claim 1 under the judicially created doctrine of obviousness-type double patenting over claims 1-13 of U.S. Patent Application 10/785,723 (Mieher et al.) and over claims 1-4, 7-10, and 12 of U.S. Patent Application 10/785,395 (Mieher et al.). Two terminal disclaimers are submitted herein.

The Examiner has rejected claims 1-16, 19, 20, 22-30, and 38-40 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. It is asserted that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. This rejection is applied to claim 1 for the language that the optical signals are represented as a periodic function (line 11) having a plurality of measured, known parameters which are obtained from each measured optical signal (lines 12-13), while the specification states that the signals are represented as a set of periodic function having a plurality of known parameters that are not measured, a predefined offset and a

period (page 31, lines 3-13). Accordingly, claim 1 has been amended to recite “representing each of the measured optical signals as a set of periodic functions having a plurality of known parameters and an unknown overlay error parameter and analyzing the set of periodic functions to solve for the unknown overlay error parameter to thereby determine the overlay error.” It is respectfully submitted that the pending claims comply with the requirements of 35 U.S.C. §112, first paragraph.

The Examiner has rejected claims 24 and 25 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner states that claims 24 and 25 recite limitation “operations (a) and (b)” in lines 1-2 and that there is no antecedent basis for this limitation in the claim. Claim 1 has been amended to provide antecedent basis for the amended limitations of claims 24 and 25 for “operation (a).” It is respectfully submitted that the pending claims comply with the requirements of 35 U.S.C. §112, second paragraph.

The Examiner has stated that claims 1-16, 19, 20, 22-30, and 38-40 would be allowable if the double patenting rejection and 35 U.S.C. §112 first and second paragraphs were overcome.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,  
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